

REMARKS

This paper is responsive to the Non-Final Office Action dated January 10, 2006.
Claims 1–43 were examined.

Claim Objections / Claim Rejections — 35 U.S.C. § 112

Claims 1, 21, 28, 32, 36 and 40 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner questions the meaning of the terms “features from the given cell” and “adding features” in claims 1, 21, 28, 32, 36 and 40, in particular asking whether the two instances of the word “features” refer to identical objects. Applicant draws Examiner’s attention to the specification for interpretation of the terms. In paragraph [1007] “a feature” is defined as “a design geometry,” and several examples are given in the following text. Fig. 2B depicts how a patch cell 120 is created from a given cell, here cluster cell 104, and a higher level cell, here cover cell 122. At least some features originating in both the cluster cell 104 and the cover cell 122 are instantiated into the patch cell 120 as shown in Fig. 2C. After the patch cell is generated, additional features may be added. Referring to paragraph [1037] and Fig. 2C, the covering metal feature 130 and the redundant via 132 are examples of features not originally in the given cell (e.g. cell 104) or a higher level cell (e.g. cell 122) that are added to the patch cell 120. Thus “adding features” to the patch cell incorporates additional design units distinct from the original “features from the given cell,” as described in Applicant’s specification.

Examiner objects to the phrase “removing all” as undefined in the specification. The specification has been amended at paragraph [1038] to clearly point out the identity between “delet[ing] the cluster cell 104 instance and the upper level cover cell 122 instance from the patch cell 120, and leav[ing] only the metal and vias that were added” and “removing all but the added features from the patch cell.” The latter phrase was included in claims 1, 21, 28, 32, 36, and 40 as originally filed and thus forms part of the original disclosure; no new matter is added by this amendment.

As to the word “effectuate,” Applicant respectfully disagrees with the Office that it “has no definition.” Consultation with the *American Heritage Dictionary*, the *Merriam-Webster Dictionary*, and the *Oxford English Dictionary* reveals that all three sources define “effectuate” as a close synonym to the transitive verb “effect” meaning to produce, or be the cause of. Examiner is therefore respectfully requested to withdraw the objection to the claim term “effectuate.”

Having provided support in the specification and in common parlance to all claim terms, Applicant believes that claims 1, 21, 28, 32, 36, and 40 are definite under 35 U.S.C. § 112, second paragraph, and urges the Office to withdraw its rejection.

Claim Rejections — 35 U.S.C. § 102

Claims 1–43 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,748,579 to Dillon et al. (hereinafter “Dillon”). Applicant respectfully traverses this rejection.

Regarding independent claim 1, Examiner asserts that Dillon teaches a method comprising all of the limitations of the claim. Applicant respectfully disagrees. In particular, Applicant finds no teaching, at col. 3, line 64 through col. 4, line 7 or elsewhere in the reference, of the use of a patch cell as described by Applicant. As described in Applicant’s specification at paragraph [1031], a patch cell has two roles: to act as a holding cell for lower and upper level features from the current design; and to serve as a working platform to hold new features added by the design flow, perhaps to correct errors in the original design. Dillon provides nothing to fulfill either function of the patch cell as described and claimed by Applicant, and therefore does not teach all of the limitations of Applicant’s claimed invention. All the limitations of claim 1 being neither taught nor suggested by Dillon, Applicant believes claim 1 is neither anticipated nor obvious, and respectfully urges the Office to withdraw its rejection.

Independent claim 21 is rejected under 35 U.S.C. § 102(e) as being anticipated by Dillon. As previously pointed out, Dillon does not teach the use of a patch cell, and therefore does not anticipate Applicant’s claim 21. Even if Dillon did teach a patch cell, claim 21 incorporates the further limitation of a cluster cell. Examiner points to Figure 1 of Dillon as teaching a cluster

cell. Applicant respectfully disagrees. As disclosed by Applicant at paragraph [1030], “[a] cluster cell is a design unit which is *only instantiated once on the top level of the design layout*, or at some level below the top level” (emphasis added). Figure 1 of Dillon, as described in that reference at col. 3, line 10 through col. 3, line 43, depicts “a fragmentary, cross-sectional view of a semiconductor integrated circuit” with features of a single MOSFET, two metal routing layers, intervening dielectric layers, and a single via. It would be truly unusual for such a structure to be considered a “cluster cell,” as the top level of design layout for modern integrated circuits contains a multitude of transistors. In the alternative, if Figure 1 of Dillon is taken as representing the entire semiconductor integrated circuit, it still does not teach a cluster cell, which is described in Applicant’s disclosure as a “design unit” and not the “whole design.” All its limitations being neither taught nor suggested by Dillon, Applicant believes claim 21 is neither anticipated nor obvious, and respectfully urges the Office to withdraw its rejection.

Independent claims 28, 32, 36, and 40 are rejected under 35 U.S.C. § 102(e) as being anticipated by Dillon. As previously pointed out with reference to claim 1, Dillon does not teach the use of a patch cell, and therefore does not anticipate nor render obvious Applicant’s claims 28, 32, 36, and 40. Applicant therefore respectfully urges the Office to withdraw its rejection.

Dependent claims 2–20, 22–27, 29–31, 33–35, 37–39, and 41–43 are rejected under 35 U.S.C. § 102(e) as being anticipated by Dillon. These claims are believed allowable at least for their dependence from an allowable independent claim. Applicant therefore respectfully requests the Office to withdraw its rejection of these claims.

Summary

Claims 1–43 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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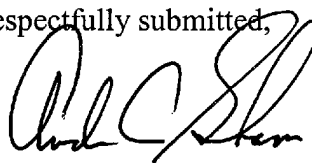
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Respectfully submitted,



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